SCOTT LAMOUREUX

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Citizenship: Canadian

Research Interests: Hydrogeomorphic and landscape processes in Arctic and northern environments, permafrost processes, environmental and climate change, paleohydrology, sedimentary systems

Employment

2017- Adjunct Professor, Cold Regions Research Centre, Wilfred Laurier University

2013- Professor, Department of Geography, Queen's University, Kingston

2005-2013 Associate Professor, Department of Geography, Queen's University, Kingston

2004-2014 Cross-appointment, School of Environmental Studies, Queen's University, Kingston

1999-2005 Assistant Professor, Department of Geography, Queen's University, Kingston

1998-1999 NSERC Postdoctoral Fellow, Department of Geography, Queen's University, Kingston. Supervisor: Robert Gilbert

Education

1998 Ph.D. Department of Earth and Atmospheric Sciences, University of Alberta
Thesis: Distinguishing between the geomorphic and hydrometeorological controls recorded in clastic varved sediments. Supervisors: John England and Martin Sharp

1994 M.S. Department of Geosciences, University of Massachusetts, Amherst
Thesis: Reconstructing past climate from varved lake sediments, Lake C2, Ellesmere Island, NWT, Canada. Supervisor: Raymond Bradley

1990 B.Sc. (Honours, first class) Physical Geography, University of Alberta

Awards

2015 Queen's Department of Geography Julian Szeicz Award for Excellence in Teaching
2011 Queen's Department of Geography Julian Szeicz Award for Excellence in Teaching
2008 Canadian Geophysical Union (CGU) Young Scientist Award
2002 Queen's Department of Geography Julian Szeicz Award for Excellence in Teaching
2001 Canadian Geomorphological Research Group (CGRG) J.R. Mackay Award
1998 Dissertation nominated for the Governor General's Award, University of Alberta
1998 NSERC Postdoctoral Fellowship (Queen's University)

1998 Queen's University Advisory Research Council Postdoctoral Fellowship (honorary)
1997 Royal Canadian Geographic Society Studentship
1997 University of Alberta Dissertation Fellowship
1996 Alberta Heritage Doctoral Fellowship
1994 NSERC Postgraduate Scholarship (PGS B)

Recent research Grants

2018 Canadian Polar Continental Shelf Program (PCSP), Integrated watershed and terrestrial research to improve water security in the High Arctic, $131 700 (35%) in kind.

2017 M. Lafrenière (lead) and D. Fortier (Montreal), Breaking down the permafrost carbon feedback enigma: characterizing the composition and lability of dissolved organic carbon (DOC) according to size fractions, NSERC, RTI, $93 772 (20%)

2017-20 Kokelj, S.V. et al., Tracking landscape change and cumulative environmental impacts using remote sensing. Cumulative Impacts Monitoring Program, Gov't NWT, $60 000/yr (25%)

2017 Co-lead with M. Lafrenière (Queen's), Advanced ion chromatography for assessing permafrost degradation impacts on water quality and organic carbon composition and dynamics, NSERC, RTI, $147 815 (40%)

2017 Co-lead with M. Lafrenière (Queen's), Canadian Polar Continental Shelf Program (PCSP), Climate and permafrost change impacts on land and water in the High Arctic: integrated research at the Cape Bounty Arctic Watershed Observatory (CBAWO), $62 000 (35%) in kind

2016 Co-lead with M. Lafrenière (Queen's), Canadian Polar Continental Shelf Program (PCSP), Integrated watershed impacts of recent and long term climate and permafrost change, $56 200 (35%) in kind

2016 Co-lead (with M. Lafrenière, Queen's), ArcticNet NCE, Field aircraft logistics support; Integrated watershed impacts of recent and long term climate and permafrost change $27 000 (35%)

2015-18 Lamoureux, S.F. et al., Water security and quality in a changing Arctic. ArcticNet NCE, $143 000/yr (8%)

2015-18 Lamoureux, S.F., Hydrological and geomorphic controls over permafrost landscape degradation, NSERC Discovery Accelerator, $40 000/yr

2015-21 Lamoureux, S.F., Hydrological and geomorphic controls over permafrost landscape degradation, NSERC Discovery, $63 000/yr

2015-21 Lamoureux, S.F., Hydrological and geomorphic controls over permafrost landscape degradation, NSERC Northern Supplement, $20 000/yr

2015 Co-lead with M. Lafrenière (Queen's), Canadian Polar Continental Shelf Project (PCSP), Integrated landscape and aquatic system processes and impacts due to changing permafrost, $45 000 (35%) in kind

Graduate Students and Postdoctoral Fellows

Name	Program	Duration	Research	Current activity
Current				
Michel Paquette	PDF	2018-	Permafrost and water quality implications of ground ice	In progress
Erika Hille	Ph.D.	2019-	Water quality impacts from permafrost disturbance	In progress
Daniel Lamhonwah (co-super.)	Ph.D.	2011-	Landscape and permafrost controls over water quality in the High Arctic	Madrone Environmental, Duncan, BC
Greg Robson (co-superv.)	M.Sc.	2018-	Remote sensing approaches to measuring thermokarst	In progress
Katrina Cantera (co-superv.)	M.Sc.	2019-	Impacts of turbidity and hydrochemical changes on zooplankton, High Arctic lakes	In progress
Tabatha Rahman	M.Sc.	2019-	Soil water dynamics in permafrost soils	In progress
Maia Somers	M.Sc.	2019-	Groundwater influences in High Arctic lakes	In progress
Completed				
Ashley Rudy	PDF	2017	Permafrost disturbance in NW Canada	Research Scientist, NWT Geological Survey, Yellowknife
Benjamin Amann	PDF	2015-2017	Arctic lake sedimentary records of hydroclimatic change	PDF Ghent University (Belgium)
Julien Fouché (co-super.)	PDF	2016-7	Permafrost water quality and organic matter characterization	PDF France
Alexandre Normandeau (FRQNT)	PDF	2015-6	Arctic lake and sedimentary systems	Research Scientist, Bedford Institute of Oceanography, Dartmouth
Phillip Bonaventure	PDF	2011-4	Permafrost dynamics and climate change in the High Arctic	Assistant Professor Univ. Lethbridge
Scott Montross (co-super.)	PDF	2011-3	Landscape and permafrost controls over biogeochemical processes in the High Arctic	University of Oregon

Ted Lewis	PDF	2008-10	Modelling integrated response of watershed, lake ice and sedimentary systems.	Hatfield Associates, Senior Hydrologist Vancouver
Scott Barnes	PDF	2002-4	Long term flow variability in the Canadian Columbia River Basin	Environmental Consultant, Calgary
Brandon Beierle	PDF	2001-2	A multi-proxy late glacial and Holocene paleoenvironments, Melville Hills, NWT	VP Environment Management, SNC Lavalin, Montreal
Caroline Coch (co-super.)	Ph.D.	2016-19	Hydrological fluxes in Low and High Arctic catchments	World Wildlife Fund
Casey Beel	Ph.D.	2015-19	Sediment delivery processes in the permafrost environment	Research Associate, Wilfred Laurier Univ., Yellowknife, NT
Maxime Boreux	Ph.D.	2011-19	Paleolimnological records of hydrological change in the Boreal region, northeast Ontario	PDF, Western University
Ashley Rudy (co-super.)	M.Sc./ Ph.D.	2010-16	Landscape controls and geospatial modelling of permafrost disturbance in the Canadian Arctic	Research Scientist, NWT Geological Survey, Yellowknife
Kailey Stewart	Ph.D. NSERC M.Sc.	2003-11 2001-3	Contemporary and recent diatom dynamics in paired High Arctic lakes High-resolution diatom records of recent climatic and ecological change, Boothia Peninsula, Nunavut	Writing- Sessional Instructor, University of Toronto
David Fortin	Ph.D. FCAR	2002-8	Instrumental and paleoclimatic records of environmental variability in northeastern North America	PDF, Northern Arizona Univ.
Jaclyn Cockburn	Ph.D. M.Sc.	2002-8 2000-2	Sedimentary processes and environmental signals from paired High Arctic lakes Subannual hydrometeorological records contained in varved lacustrine sediments	Associate Professor, Univ. Guelph
Krystopher Chutko	Ph.D.	2003-8	Sedimentary structural indicators of arctic terrestrial and aquatic processes	Assistant Professor, University of Saskatchewan
Jessica Tomkins	Ph.D. NSERC M.Sc. NSERC	2003-8 2001-3	Sedimentary indicators of environmental change in a High Arctic, perennial ice covered lake Paleoclimatic variability in the southern Mackenzie Mountains, NWT	Geological Survey of Canada, Ottawa
Sarah McFadden	M.Sc. NSERC	2017-19	Subsurface water pathways in High Arctic soils	Junior Hydrogeologist, GHD, Toronto

Matthew Gillman (co-super.)	M.Sc.	2015-18	Subsurface flow between slopes and channels in permafrost catchments	Hydrologist, Agnico-Eagle Mining
Michael Pope	M.Sc.	2016-8	Multi-year (2007-2017) mercury (Hg) concentration and fluxes from small High Arctic rivers impacted by landscape disturbance	MITACS Research Hydrologist, Kingston
Jessica Peters	M.Sc. NSERC	2015-7	Subsurface water flow pathways in the Canadian High Arctic	Consultant, ASC Environmental, Kingston ON
Amanda Schevers	M.Sc.	2015-7	Dissolved inorganic nitrogen (DIN) export from High Arctic catchments	Junior Geoscientist, Robertson GeoConsulting, Vancouver BC
Kaitlyn Roberts	M.Sc.	2014-7	Arctic Charr otoliths as indicators of limnological change	Fisheries technician, Ottawa
Christopher Bolduc	M.Sc.	2013-5	Subsurface seepage and hyporheic exchange in High Arctic rivers	Water Quality Technician, Alberta Environment
Elizabeta Kjikjerkovska (co-super.)	M.Sc.	2012-6	Water source and hydrological changes (1983-2013), Apex River, Nunavut	Meteorological Technician, Alberta Environment
Jean Holloway	M.Sc.	2012-4	Subsurface flowpaths in continuous permafrost environments	Ph.D. student University of Ottawa
Elena Favaro	M.Sc.	2011-3	The downstream response of fluvial sediment dynamics to permafrost disturbance	Ph.D. student, University Calgary
Anthony Bassutti	M.Sc.	2010-3	Land use change impacts on lake water column properties, eastern Ontario	Environmental Tech, Cameco, Saskatoon
Alison Cassidy	M.Sc.	2009-11	Vegetation response to recent and historical permafrost disturbance	Parks Canada, Inuvik, NT
Maryse Veillette	M.Sc.	2009-11	Channel sediment dynamics in response to recent permafrost disturbance	Geomorphologist, Matrix Solutions, Calgary
Hilary Dugan	M.Sc. NSERC	2008-10	Chemical evolution of coastal Arctic hypersaline and freshwater lakes	Assistant Professor, U. Wisconsin-Madison
Lynne Bosquet	M.Sc.	2008-10	Impact of permafrost disturbance and climate experiments on tundra vegetation	Environmental Officer, Vancouver

Claire Kaufman	M.Sc. NSERC	2006-8	Late Holocene climate in the Ahklun Mountains, SW Alaska	University of Alaska, Anchorage
Dana McDonald	M.Sc.	2005-7	Temporal and spatial characteristics of sediment delivery processes in a high arctic watershed	Waterwatch, Vancouver
Andrew Forbes	M.Sc.	2001-3	Hydrological processes across three large middle arctic watersheds, Boothia Peninsula, Nunavut	Principal, Golder Associates, Mississauga

Graduate committees:

(excluding my students)
Ph.D. Comprehensive Examinations: 44
M.Sc. and Ph.D. Thesis examinations: 94
Active committees: 7

Undergraduate Students Supervised

Name	Program	Duration	Research	Subsequent training and current activity
Fiona Chapman	B.Sc.H. (McGill)	2018-19	Subsurface-surface water exchanges indicated in High Arctic ponds	M.Sc. student McMaster
Hannah Boomer	B.Sc.H.	2017-18	The effect of climate variability on lake water balances and water quality in the Niaqunguk (Apex) River Watershed, Baffin Island, Nunavut	B.Ed. student, Queen's
Conor Spencer	B.A.H. NSERC	2017	Ground ice properties in a High Arctic landscape	B.A.H. student, Queen's
Madison Harasyn	B.Sc.H.	2016-17	Detecting the presence of localized ground water inputs into High Arctic lakes	M.Sc. student U. Manitoba
Siobhan McCarter	B.Sc.	2015-16	Landscape impact of petroleum exploration in the High Arctic	M.Sc. student UBC

Visiting students hosted in laboratory

Steffi Weege	Ph.D.	Alfred Wegener Institute, Potsdam	Mar-Jun 2014
Susan Liermann	Ph.D.	Norwegian Technical University (NTNU)	Feb-Mar 2011
Francois Lapointe	M.Sc.	INRS-ETE, Quebec City	June 2010
Guillaume Jouve	Ph.D.	INRS-ETE, Quebec City	April 2010

Field Research Experience

Field expertise: Geomorphology, hydrometeorology, hydrochemistry, sediment transport studies, lacustrine processes, sedimentology and Quaternary paleoenvironments.

- 32 seasons in the Canadian Arctic Archipelago (Boothia Peninsula and Ellesmere, Devon, Melville, Cornwallis and Cornwall Islands), 1988-2019.
- 13 seasons northwest British Columbia, southern Yukon, NWT (Mackenzie Delta, Mackenzie Mountains)
- Copper River, Alaska Range and Ahklun Mountains, Alaska, 1998-2010.
- Nordfjord, western Norway, 2010.
- Canadian Rocky Mountains, Columbia River basin, BC,
- Timmins, Temiskaming/Rouyn-Noranda region, Ontario/Quebec and eastern Ontario, 2001-2013.

Teaching Experience

Active undergraduate courses:

GPHY 209 Weather and Climate (enrolment 70-80)
Years taught: 2017-2019

GPHY 304 Arctic and Periglacial Environments (enrolment 85-155)
Years taught: 2010, 2012-2018

GPHY 307 Field Methods in Physical Geography
Years taught: 2003 South-central Alaska; 2006, 2008, 2011, 2014, 2015, 2017 Eastern Ontario

Inactive undergraduate courses:

GPHY 102 Earth Systems Science (with R. Danby) (enrolment 300-425)
Years taught: 2011, 2012, 2013, 2016, 2017

GPHY 103 Water Resources (enrolment 95-150)
Years taught: 2008-9 (with M. Lafrenière), 2015

GPHY 210 A Geographical Perspective on Global Change (enrolment 149-195)
Years taught: 1998-2004, 2006-2008

GPHY 306 Natural Environmental Change (enrolment 55-66)
Years taught: 2003, 2005, 2007, 2009 (x2), 2010, 2013

GPHY 308 Watershed Hydrology and Fluvial Geomorphology (enrolment 10-25)
Years taught: 2000, 2001, 2002, 2004

GPHY 312 Watershed Hydrology and Hydrochemistry (with M. Lafrenière)
Years taught: 2009

GPHY 494 Honours Seminar in Physical Geography (enrolment 8-11)
Years taught: 2000, 2001

Graduate courses:

GPHY 817 Physical Processes in Hydrology

Years taught: 2001, 2002, 2004, 2008, 2009, 2011, 2012, 2014

GPHY 824 Northern Processes

Years taught: 2016, 2016, 2017

GPHY 825 Paleoclimatology

Years taught: 2000, 2001, 2004, 2007, 2011

Professional and University Service

I have been a peer reviewer for papers submitted a number of journals, including*:*

Water Resources Research
Geochimica et Cosmochimica Acta
Limnology and Oceanography
Journal of Paleolimnology
Hydrological Processes
Geophysical Research Letters
Sedimentary Geology
Arctic, Antarctic and Alpine Research
Permafrost and Periglacial Processes
Earth Surface Processes and Landforms
Climatic Change
Canadian Journal of Earth Sciences
Journal of Quaternary Science
Canadian Geographer
Polar Research
Arctic
The Holocene
Quaternary Science Reviews
Hydrology and Earth System Science
Global and Planetary Change
Norsk Geografisk Tidsskrift
Geografiska Annaler
Environments

as well as numerous book chapters and textbooks. I have reviewed NSERC, Geological Survey of Canada (GSC), NERC (UK), ESU, Netherlands, New Zealand and NSF (US) proposals concerning water resources, fluvial geomorphology, arctic climatology, lake ice formation, lacustrine sedimentology and Quaternary environments.

Affiliations: Canadian Geophysical Union
American Geophysical Union
Geological Society of America
Arctic Institute of North America
International Permafrost Association

External

- Garfield Weston Scholarship Program, Natural Science Committee 2015-2017
- Past President, CANQUA, 2013-15
- Executive, Canadian Geophysical Union, Hydrological Section (CGU-HS), 2011-3
- Polar Continental Shelf Project (PCSP), Chair, Scientific Screening Committee, 2009-11
- Polar Continental Shelf Project (PCSP), Scientific Screening Committee, 2007-9
- President, Vice President, CANQUA Executive, 2009-13
- Council member, CANQUA Executive, 2005-9

- Member, Canadian International Polar Year (IPY) Climate Change Assessment and Impacts subpanel committee, 2006-9
- Newsletter Editor, Canadian Geomorphological Research Group (CGRG), Canadian Association of Geographers (2004-8)
- Management Committee member, Canadian Northern Studies Trust 2003-8
- University representative, Association of Canadian Universities for Northern Studies (ACUNS) (2001-10)
- Director, Queen's Northern Studies Research Group (2001-10). Responsible for coordinating the University application for funding under the Northern Science Training Program (NSTP), Department of Indian and Northern Affairs.
- Chair, organizing committee, CGU Hydrology Section Ontario Student Conference, December 10, 2004, Queen's University.
- Co-organizer (with E. Little, Nunavut Geoscience and J. England, University of Alberta) for special symposium session "Late Cenozoic Environmental Change" at GAC/MAC annual meeting, St. Catharines, May 2003.
- Co-chair for CAGONT (CAG-Ontario division) meeting at Queen's, October, 2003.
- Co-convenor (with R. Bradley, UMass Amherst) of session "Developments in high resolution sedimentary records" at International Limnogeology Congress, Tucson, March 2003.
- CAGONT executive, representative 2003-5
- Member steering committee, Canadian Climate Impact and Adaptation Network (C-CAIRN), Landscape Node, Natural Resources Canada (2001-2)
- Co-director, Queen's Northern Studies Research Group (with J. Smol) (2000-1)

University/Departmental

- University Senate, member (2010-13) (2014-17)
    - Senate Committee on Academic Procedures (SCAP) (2014-16)
- Faculty of Arts and Science, Board of Studies (academic appeal board) (2009-11)
- Geography Undergraduate Chair (2004-5, 2006-8)
    - Major accomplishments include: coordinated the implementation of new first year core and survey courses; coordination of revised Earth System Science B.Sc. program; initiation of Human Geography program review and revision.
- Acting Geography Undergraduate Chair (Spring 2003, fall 2009)
- Geography Undergraduate Committee (2000-1, 2001-2, 2002-3)
- Environmental Studies Undergraduate Committee (2004-5, 2006-7)
- Academic advisor for Geography students (2004-)
- Academic advisor for Environmental Science/Geography students (2004-5, 2006-15)
- Geography Appointments Committee (2001-2, 2002-3, 2003-4, 2004-5, 2005-6, 2008-9, 2011-12, 2014-15, 2015-16)
- Chair, Department of Geography and Planning RPT Committee (2015-16, 2016-17)
- Department of Geography Head Selection Committee (2003-4, 2009-10)
- Nominating Committee (2002-5, 2010-15)
- Ad hoc committee for Appointment Committee reform (2002)

Education outreach

- Frequent presentations to Kingston high school classrooms 2008-17
- Frontenac, Lennox and Addington District Science Fair judge (2014-)
- Advised winning students (Kingston region) on presentation strategies for National Science Fair (2014)
- Qarmartalik School, Resolute, NU, Lessons with K-2 and 3-6 students pertaining to lake sediments and sedimentation, May 22, 2009.
- North Addington Education Centre (High School), Climate conference, March 2007.

Publications

Refereed journal publications

113. Coch, C., Juhls, B., Lamoureux, S.F., Lafrenière, M.J., Fritz, M., Heim, B. and Lantuit, H., in press. Terrestrial colored dissolved organic matter (cDOM) in Arctic catchments – characterizing organic matter composition across the Arctic. *Biogeosciences*, Accepted October 2019.

112. Elmslie, B.G., Gushulak, C.A.C., Boreux, M.P., Lamoureux, S.F., Leavitt, P.R., Cumming, B.F., in press. Complex algal responses to climate warming during the Holocene of northeastern Ontario, Canada. *The Holocene*, Accepted August 2019.

111. Boreux, M.P., Lamoureux, S.F., and Cumming, B.F., in press. Landscape and groundwater controls over boreal lake water chemistry and water balance heterogeneity in an esker complex of northeastern Ontario, Canada. *Hydrology and Earth System Science*, accepted July 2019.

110. Lafrenière, M.J. and Lamoureux, S.F., 2019. Effects of changing permafrost conditions on hydrological processes and fluvial fluxes. *Earth-Science Reviews*, 191: 212–223, doi.org/10.1016/j.earscirev.2019.02.018

109. Cabrerizo, A., Muir, D., De Silva, A., Wang, X., Lamoureux, S., Lafrenière, M., 2018. Legacy and emerging persistent organic pollutants (POPs) in terrestrial compartments in the High Arctic: sorption and secondary sources. *Environmental Science and Technology*, 52: 14187–14197, doi.org/10.1021/acs.est.8b05011.

108. Beel, C.R., Lamoureux, S.F. and Orwin, J.F., 2018. Fluvial response to a period of hydrometeorological change and landscape disturbance in the Canadian High Arctic. *Geophysical Research Letters*, 45. doi.org/10.1029/2018GL079660

107. Grewer, D., Lafrenière, M.J., Lamoureux, S.F., and Simpson, M.J., 2018. Spatial and temporal shifts in fluvial sedimentary organic matter composition from a High Arctic Watershed impacted by localized slope disturbances. *Organic Geochemistry*, 123: 113–125, doi.org/10.1016/j.orggeochem.2018.07.004

106. Coch, C., Ramage, J.L., Lamoureux, S.F., Meyer, H., Knoblauch, C., and Lantuit, H., 2018. Summer rainfall dissolved organic carbon, solute, and sediment fluxes in a small Arctic coastal catchment on Herschel Island (Yukon Territory, Canada). *Arctic Science*, 4: 750-780. doi.org/10.1139/as-2018-0010

105. Bolduc, C. and Lamoureux, S.F., 2018. Multi-year variations in High Arctic river temperatures in response to climate variability. *Arctic Science*, 4, doi: 10.1139/AS-2017-0053.

104. Lehnherr, I., St. Louis, V.L., Sharp, M., Gardner, A.S., Smol, J.P., Schiff, S.L., Muir, D.C.G., Mortimer, C.A., Michelutti, N., Tarnocai, C., St. Pierre, K.A., Emmerton, C.A., Wiklund, J.A., Köck, G., Lamoureux, S.F., and Talbot, C.H., 2018. The High Arctic's only "Great Lake" succumbs to climate warming. *Nature Communications*, 9:1290, doi: 10.1038/s41467-018-03685-z

103. Wang, J.-J., Lafrenière, M.J., Lamoureux, S.F., Simpson, A., Galinas, A., and Simpson, M.J., 2018. Differences in riverine and pond water dissolved organic matter composition and sources in Canadian High Arctic watersheds affected by active layer detachments. *Environmental Science and Technology*, 52: 1062−1071, doi:10.1021/acs.est.7b05506

102. Bolduc, C., Lamoureux, S.F. and Franssen, J., 2018. Thermal and isotopic evidence for surface and subsurface water contributions to baseflow in a High Arctic river. *Hydrological Processes*, 32: 602–616, doi:10.1002/hyp.11427.

101. Rudy, A.C.A., S.F. Lamoureux, P. Treitz, N. Short and B. Brisco, 2018. Seasonal and multi-year surface displacements measured by DInSAR in a High Arctic permafrost environment, *International Journal of Applied Earth Observation and Geoinformation*, 64: 51–61, doi.org/10.1016/j.jag.2017.09.002.

100. Rudy, A.C.A., Lamoureux, S.F., Kokelj, S.V., Smith, I.R. and England, J.H. 2017. Accelerating thermokarst transforms ice-cored terrain triggering a downstream cascade to the ocean. *Geophysical Research Letters*, 44, doi.org/10.1002/2017GL074912

99. Roberts, K.E., Lamoureux, S.F., Kyser, T.K., Muir, D.C.G., Lafrenière, M.J., Iqaluk, D., Pieńkowski, A.J. and Normandeau, A., 2017. Climate and permafrost effects on the chemistry and ecosystems of High Arctic Lakes. *Scientific Reports*, 7: 13292, doi:10.1038/s41598-017-13658-9.

98. Lamoureux, S.F. and Lafrenière, M.J., 2017. More than just snowmelt: integrated watershed science for changing climate and permafrost at the Cape Bounty Arctic Watershed Observatory. Invited review *WIREs Water*, e1255, doi:10.1002/wat2.1255.

97. Gillman, M.A., Lamoureux, S.F. and Lafrenière, M.J., 2017. Calibration of a modified temperature-light intensity logger for quantifying water electrical conductivity. *Water Resources Research*, 53, doi.org/10.1002/2017WR020634.

96. Lewis, T., Dugan, H.A., Normandeau, A. and Lamoureux, S.F., 2017. Hyperpycnal flows control the persistence and flushing of hypoxic high conductivity bottom water in a High Arctic lake. *Arctic Science*, 4: 25-41, doi: 10.1139/AS-2017-0022.

95. Amann, B., Lamoureux, S.F. and Boreux, M., 2017. Winter temperature conditions (1670 – 2010) reconstructed from varved sediments, western Canadian High Arctic. *Quaternary Science Reviews*, 172:1-14, doi.org/10.1016/j.quascirev.2017.07.013

94. Inglese, C.N., Christiansen, C.T., Lamhonwah, D., Moniz, K., Montross, S., Lamoureux, S.F., Lafrenière, M.J., Grogan, P. and Walker, V.K., 2017. Examination of soil microbial communities after permafrost thaw subsequent to an active layer detachment in the High Arctic. *Arctic, Antarctic and Alpine Research*, 49: 455-472, doi:10.1657/AAAR0016-066

93. McCarter, S.S., Rudy, A.C.A. and Lamoureux, S.F., 2017. Long-term landscape impact of petroleum exploration, Melville Island, Canadian High Arctic. *Arctic Science*, 3: 730–744, doi:10.1139/AS-2016-0016.

92. Holloway, J.E., Rudy, A.C.A., Lamoureux, S.F. and Treitz, P., 2017. Determining the terrain characteristics related to subsurface water pressurization in permafrost landscapes using susceptibility modelling. *The Cryosphere*, 11: 1403-1415, doi.org/10.5194/tc-11-1403-2017.

91. Lafrenière, M.J., Louiseize, N. and Lamoureux, S.F., 2017. Active layer slope disturbances affect magnitude and composition of dissolved nitrogen export from High Arctic headwater catchments, *Arctic Science*, 3: 429–440, doi.org/10.1139/as-2015-0009.

90. Lapointe F, Francus P, Lamoureux SF, Vuille M, Jenny J-P, Bradley RS, 2017. Influence of the North Pacific Decadal Variability on the western Canadian Arctic climate over the past 700 years. *Climates of the Past*, 13: 411-420, doi.org/10.5194/cp-13-411-2017.

89. Lamhonwah D, Lafrenière MJ, Lamoureux SF, Wolfe BB, 2017. Evaluating the hydrological and hydrochemical responses of a High Arctic catchment during an exceptionally warm summer. *Hydrological Processes*, 31: 2296–2313, DOI: 10.1002/hyp.11191.

88. Fouché J, Lafrenière MJ, Rutherford K, Lamoureux SF, 2017. Seasonal hydrology and permafrost disturbance impacts on dissolved organic matter composition in High Arctic headwater catchments. *Arctic Science*, 3: 378-405 doi:10.1139/AS-2016-0031.

87. Berteaux D, Gauthier G, Dominé F, Ims RA, Lamoureux SF, Lévesque E, Yoccoz N, 2017. Effects of changing permafrost and snow conditions on tundra wildlife: critical places and times. *Arctic Science*, 3: 65–90, doi:10.1139/as-2016-0023.

86. Lamhonwah D., Lafrenière M.J., Lamoureux S.F., and Wolfe B.B., 2017. Multi-year impacts of permafrost disturbance and thermal perturbation on High Arctic stream chemistry. *Arctic Science*, 3: 254–276, doi:10.1139/as-2016-0024.

85. Normandeau, A., Lamoureux, S.F., Lajeunesse, P. and Francus, P., 2016. Sediment dynamics in paired High Arctic lakes revealed from a high-resolution swath bathymetry and acoustic stratigraphy survey. *Journal of Geophysical Research Earth Surface Processes*, 121: 1676–1696, 10.1002/2016JF003873.

84. Bonnaventure, P.P., Lamoureux, S.F., Favaro, E.A., 2016. Over winter channel bed temperature regimes generated by contrasting snow accumulation in a High Arctic river. *Permafrost and Periglacial Processes*, doi: 10.1002/ppp.1902.

83. Rudy, A.C.A., Lamoureux, S.F., Treitz, P., Van Ewijk, K., Bonnaventure, P.P., 2016. Terrain controls and landscape-scale modelling of permafrost slope disturbance susceptibility. *Permafrost and Periglacial Processes*, doi: 10.1002/ppp.1900.

82. Grewer, D.M., Lafrenière, M.J., Lamoureux, S.F., and Simpson, M.J., 2016. Redistribution of soil organic matter by permafrost disturbance in the Canadian High Arctic. *Biogeochemistry*, 128: 397-415, doi: 10.1007/s10533-016-0215-7

81. Rudy, A.C.A., Lamoureux, S.F., Treitz, P. and Van Ewijk, K., 2016. Transferability of regional permafrost disturbance susceptibility modelling using generalized linear and generalized additive models. *Geomorphology*, 264: 95–108.

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Beylich, A.A., Lamoureux, S.F. & A. Decaulne, 2008. Quantitative analysis of source-to-sink-fluxes and sediment budgets in changing cold environments – the global SEDIBUD program. Geophysical Research Abstracts, Vol. 10, EGU2008-A-01652, 2008.

Beylich, A.A., Lamoureux, S.F. & A. Decaulne, 2008. The global I.A.G./A.I.G. SEDIBUD (Sediment Budgets in Cold Environments) programme: Introduction and overview. Norsk Geografisk Tidsskrift-Norwegian Journal of Geography, 62: 50-51.

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Decaulne, A., Beylich, A.A., Lamoureux, S.F., Caine, N.T. & I. Overeem, 2008. Sediment fluxes and sediment budgets in changing high-latitude and high-altitude cold environments. Sediment Budgets in Cold Environments (SEDIBUD) Third Workshop; Mountain Research Station, INSTAAR, Boulder, Colorado, 9-13 September 2008. IAG/AIG Newsletter No. 24 (3/2008).

Beylich, A.A., Lamoureux, S.F. & A. Decaulne, 2007. Coordinated quantitative studies on sediment fluxes and sediment budgets in changing cold environments – examples from three SEDIBUD key test areas in Canada, Iceland and Norway. Landform Analysis, 5: 11-12.

Beylich, A.A., Lamoureux, S.F. & A. Decaulne, 2007. Sediment fluxes and sediment budgets in changing cold environments – examples from coordinated quantitative studies in three SEDIBUD key test areas in Canada, Iceland and Norway. NGU Report, 2007.052: 26-27.

Beylich, A.A., Lamoureux, S.F. and Decaulne A. (eds.), 2007. Second Workshop of I.A.G./A.I.G. SEDIBUD – Sediment Budgets in Cold Environments: Sediment Fluxes and Sediment Budgets in Changing High-Latitude & High-Altitude Cold Environments. NGU Report 2007.052, 57 pp.

Beylich, A.A., Lamoureux, S.F., Decaulne, A., Björk, R.G. and Tweed, F.S., 2007. Chapter 4, Selection of critical key test catchments. *In* SEDIFLUX Manual, Analysis of Source-to-Sink Fluxes and Sediment Budgets in Changing High-Latitude and High-Altitude Cold Environments (Beylich, A.A. and Warburton, J eds.), Norwegian Geological Survey Report 2007.053, p. 95-100.

Lantuit, H., Beylich, A.A. and Lamoureux, S.F., 2007. Chapter 5, Integration and synthesis of cold environment sediment flux data. *In* SEDIFLUX Manual, Analysis of Source-to-Sink Fluxes and Sediment Budgets in Changing High-Latitude and High-Altitude Cold Environments (Beylich, A.A. and Warburton, J eds.), Norwegian Geological Survey Report 2007.053, p. 101-116.

Lamoureux, S.F. 2004. Invited entry for "Cornwall Island", Arctic Encyclopedia, Routledge, New York.

Lamoureux, S.F., 2003. Entry for "Impregnation", Encyclopedia of Sedimentology, Kluwer, Dordrecht, p. 374-375.

<u>Invited and keynote presentations</u>

22. Lamoureux, S.F., 2015. Impacts of permafrost change on landscape stability and water quality, invited presentation at the American Geophysical Union Fall Meeting, San Francisco, Dec.

21. Lamoureux, S.F., and Normandeau, A., 2015. Connecting process to high resolution paleorecords: long term investigations of linked Arctic climate-hydrology-lacustrine sedimentary processes, invited presentation at the American Geophysical Union Fall Meeting, San Francisco, Dec.

20. Lamoureux, S.F. and Lafrenière, M.J., 2014. Landscape and Hydrological Transformation in the Canadian High Arctic: Climate Change and Permafrost Degradation as Drivers of Change, invited presentation at the American Geophysical Union Fall Meeting, San Francisco, Dec.

19. Lamoureux, S.F., 2013. Hydroclimatic controls over sediment transport and clastic varve formation in the Canadian Arctic: ten years of process research. Keynote presentation, Developments in high resolution paleoenvironmental records session, American Geophysical Union Fall Meeting, San Francisco, December 9.

18. Lamoureux, S.F., 2013. Long term process studies to improve the interpretation of Arctic clastic varve records. Invited presentation, GeoForschungsZentrum, Potsdam, Germany, November 20.

17. Lamoureux, S.F., 2013. The impacts of climate and permafrost change at Cape Bounty, Arctic Canada: a decade of integrated contemporary process and paleoenvironmental research. Invited presentation, Alfred Wegener Institute, Potsdam, Germany, November 11.

16. Lamoureux, S.F., 2013. Finding lake sediment proxies of unusual recent environmental change in the Canadian High Arctic. Invited presentation, Oscheger Climate Center, University of Bern, Switzerland, November 5.

15. Lamoureux, S.F., 2013. Arctic Development and Adaptation to Permafrost in Transition" (ADAPT). Invited presentation, PAGES21-EU General Assembly, Abisko, Sweden, September 23.

14. Lamoureux, S.F. and Lafrenière, M.J., 2012. Hydrological impacts of climate change on High Arctic rivers: findings from a decade of research at the Cape Bounty Arctic Watershed Observatory (CBAWO), Melville Island, Nunavut. Invited Plenary Presentation, ArcticNet Annual Science Meeting, Vancouver, December 11-14.

13. Lamoureux, S.F. and Lafrenière, M.J., 2012. Permafrost disturbance impacts and recovery in High Arctic river and stream systems. Invited presentation at Rescan Environmental Consultants (webcast to six locations), Vancouver, December 13.

12. Lafrenière, M.J. and Lamoureux, S.F., 2012. Impact of warming and permafrost disturbance on solute and nutrient export in High Arctic watersheds. Invited presentation at Rescan Environmental Consultants (webcast to six locations), Vancouver, December 13.

11. Lamoureux, S.F., 2012. Lake and catchment process studies in the Canadian Arctic to improve our understanding of the formation and environmental signal of clastic varves. Presented at the 3rd PAGES Varve Workshop, Manderscheid, Germany, March.

10. Lamoureux, S.F., 2009. Terrestrial and aquatic impacts of recent climate change and permafrost disturbance in the Canadian High Arctic. Invited plenary presentation at the University of Toronto Global Change Student Symposium, October 23.

9. Lamoureux, S. and Lafrenière, M., 2007. Hydrological impact of extensive permafrost disturbance in a High Arctic Watershed, Cape Bounty, Melville Island. Plenary presentation at the ArcticNet Annual Science Meeting, Blue Mountain, December 12-15.

8. Lamoureux, S.F., 2007. Contrasting hydrological response between glacierized and snowmelt-dominated watersheds in the Canadian Arctic during the past 500 years inferred from varved lacustrine sediments**.** Goldschmidt Lecture, Norwegian Geological Survey (NGU) Trondheim, March 27.

7. Lamoureux, S.F., 2007. Integrated watershed processes in the Canadian High Arctic: insights from four years of field studies at the Cape Bounty Experimental Watershed Observatory. University of Toronto, Department of Geography Seminar Presentation, February.

7. Lamoureux, S.F., Lafrenière, M.J., McDonald, D., Cockburn, J., Simpson, M., Simpson, A., Francus, P., Cuven, S., 2006. High Arctic watershed dynamics and fluxes: comprehensive linked process studies to identify the impact of projected climate change. Plenary presentation at ArcticNet ASM, Victoria, December.

6. Lamoureux, S.F., 2006. Long term sediment delivery processes from lacustrine sedimentary records: exploring hydroclimate and geomorphic processes. Invited lecture to Graduate Course, Department of Geography, Norwegian Technical University (NTNU), Trondheim, November 1.

5. Lamoureux, S.F., 2006 Watershed and related fluxes: a perspective from the Canadian Arctic. Invited keynote lecture at the 4th SEDIFLUX/1st SEDIBUD Workshop, Norwegian Geological Survey (NGU), Trondheim, October 30.

4. Lamoureux, S.F., 2003. Developments in annual and subannual lacustrine records. Plenary presentation at the 3rd International Limnogeology Congress, Tucson, March 29.

3. Lamoureux, S.F., 2001. Lacustrine sedimentary records of long term geomorphic and hydroclimatic change. Invited lecture at the biannual meeting of the Canadian Quaternary Association (CANQUA), Whitehorse.

2. Lamoureux, S.F., 1999. Long term variations in heavy rainfall events in the Canadian High Arctic: identifying changing climate behaviour from sedimentary proxy records. Invited paper for workshop on decoding Canada's environmental past: adaptation lessons based on changing trends and extremes in climate and biodiversity, sponsored by Environment Canada, Victoria.

1. Lamoureux, S.F., 1998. Varved sediments: the potential of high resolution sedimentary records for investigating the variability in natural systems. Invited paper presented at the Geological Society of America annual meeting, Toronto.

<u>Conference presentations</u>

232 total talks and posters, 1993-2017 (December 31, 2017)